

How can we understand the differences between France and Japan in the growth of shared mobility services?

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How can we understand the differences between France and Japan in the growth of shared mobility services?

The paradox of trust and its social construction

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Abstract

This discussion paper aims to question and analyze the differences between France and Japan in the development of shared mobility service by considering the question of trust in an individual as a key to the growth of a new mobility system. In both countries, the shared mobility is booming but their developments can vary according to the shard mobility types (car-sharing or carpooling, B to C or B to B, etc.). Various factors like governmental policy, economical, social and geographical contexts of each country can have an impact on the service development. In this research, I focus particularly on social relationship with 'strangers' form a sociological standpoint. Firstly, the paper identifies existing services in France and Japan and compares its current state of development (user numbers and user profiles), then deals with the question of trust from a sociological standpoint, by comparing with carpooling service websites such as 'Blablacar' in France and 'notteco' in Japan. From this comparison, the discussion paper proposes a hypothesis to study the relationship between the using carpooling service and the trust in an individual and suggests direction for further research.

Keywords: carpooling, car-sharing, comparison, cooperative economy, development, new mobility, shard mobility, trust, users

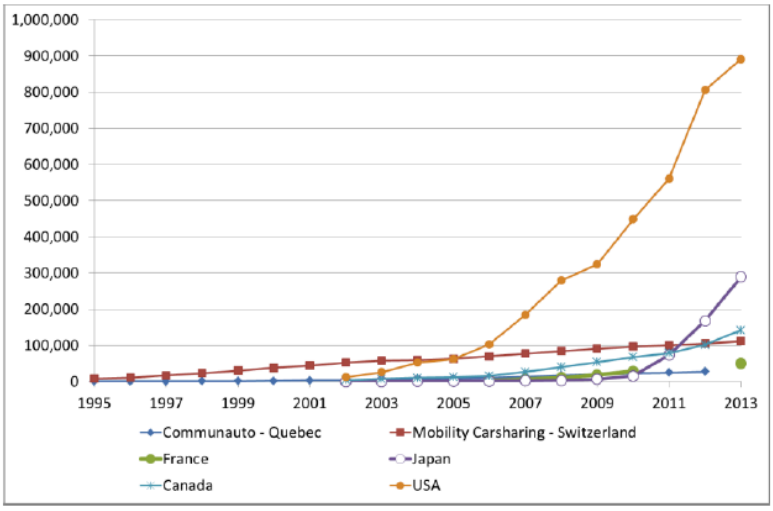
1. Introduction

The new mobility services based on 'sharing' (car-sharing or carpooling) are booming in both France and Japan. This phenomenon is clearly linked with an expansion of the new socio-economical style called the cooperative economy that rests on the fact that access to use prevails over property (Rifkin, 2005). One of the characteristics of shared mobility is that the service is based on sharing a car (car-sharing) or a travel (carpooling) with strangers. Car-sharing is a system of sharing a vehicle between relatives, friends, but also strangers. Carpooling is sharing a trip with strangers. The practice of service rests above all on trust in others.

Although the number of shared mobility services is increasing in France and Japan (Fig. 1), we can generally observe differences in the way these services are growing. For instance, in Japan, the car-sharing service B to C (Business to Consumer) is more developed (e.g. 846,240 subscribers and 19,717 vehicles in 2016) (Foundation for Promoting Personal Mobility and Ecological Transport, 2016) than the carpooling service, while in France both services are growing, especially the service C to C (Consumer to Consumer) is much more evolved in France than in Japan[1]. We can for example observe the remarkable growth of the 'Blablacar' carpooling service in France. Various factors like government policy, economic, social and geographical contexts can have an impact on the service development. In this research, I will analyze differences in the development of these services with a focus on social relationship, particularly the relationship with 'strangers' from a sociological standpoint.

[1] There are over 25 millions Blablacar subscribers according to Blablacar website accessed on the 26 June 2016, while notteco, equivalent to Blablacar in Japan, counts only 27000 subscribers according to the notteco company's survey in 2006, exchanged by email with notteco company in August 2016.

Figure 1: Evolution of the number of car-sharing subscribers in different countries [2]



2. Purpose and research questions

The research aims to understand the differences between France and Japan in the development of shared mobility service by considering the question of trust in an individual as a key to the growth of a new mobility system. For this purpose, I will focus on analyzing the service and the users in both France and Japan. What kind of service exists? Who is using the service? What is the motivation when using shared mobility? I also question the following three points: societal concerns, service strategies and the economic aspect, in order to pinpoint differences in the use of services in France and Japan.

1) Societal concerns:

[2] Quebec: http://www.communauto.com/images/usagers.html; Switzerland: /www.mobility.ch/fr/medias/communiques-de-presse/ ; France: CERTU, 2008, L'auto-partage en France et en Europe – état des lieux et perspectives ; Japan: Ecomo Foundation ; USA: Shaheen and Cohen, 2012, cited in Yveline Lecler, Bruno Faivre D'Arcier B., 2014, « Carsharing in cities : will electric vehicles change the business ? A comparison between France and Japan », paper presented at the 22nd International Colloquium of GERPISA, Kyoto, 4-6 June 2014.

The purposes when using shared mobility can be various. They can be economic reason (profitability of the use, cheaper than other travel modes, etc.), ecological concerns and social aspect (conviviality, friendly, etc.). Beyond personal interest, I question the impact of shared mobility on a community and its complementary role in existing transportation mode. Does the shared mobility contribute to a territorial development from economic or societal standpoints?

2) Service strategies:

Service strategy to attract or retain customers should be the focus in the research. Investigating the cultural differences in the strategy is interesting to understand the different way of using the shared service.

3) Economic aspects:

The shared mobility is often practiced by young adults. For instance, the age range of the majority of users is between 30 to 49 years old in car-sharing service in France (54%) (ADEME & 6T-bureau de recherche, 2013) and in Japan (70%) (Foundation for Promoting Personal Mobility and Ecological Transport, 2013). The average age of carpooling users in France is 34 years old (ADEME & 6T-bureau de recherche, 2015). Is the use of this kind of service reserved only for limited population as like young people or economically vulnerable population? Or is it expanding to all people and becoming one of the common travel modes? How does economical aspect influence the growth of service in both countries?

Once differences in development of shared mobility are pinpointed, my focus will be on these differences and analyze the trust issue in strangers.

1) What is the key to establish trust with strangers?

The shared service is based primarily on trusting others; 'trust between strangers' (Botsman & Rogers, 2010) and the acceptance of strangers. How is the relationship

with strangers built during the use of the service? What fosters trust to be able to share car or trip with strangers? What kind of relationship is built in the practice of shared mobility?

2) Paradox of trust in France and Japan

France is sometimes considered as a society of defiance; 'the French are suspicious of their citizens, public authorities and the market (Algan & Cahuc, 2007), while Japan would rather represent a society of trust that would nurture the culture of collectivity (Yamagishi, 1999). For instance, the World Values Survey indicates that to 19% (2015a) of French people answer 'yes', compared to 37% (2015b) of Japanese to the following question: 'Generally speaking, would you say that most people can be trusted?'. However the service of shared mobility based on trust between strangers seems less developed in Japan than in France. Why this paradox? The research aims to understand this paradox and to investigate how we built trust in strangers within shared mobility context in both countries.

3. Methodology

The approach of the research are based on document analysis including academic literatures, government reports, data in each service website and interviews with experts in professional or academic fields. Regarding the trust issue, I will focus particularly on a carpooling service and compare the carpooling service websites ('Blablacar' in France and 'notteco' in Japan) in both countries. In general, there exist common elements in the C to C service in order to ensure the service such as proving user identity (by email address, mobile number, Facebook, putting a photo etc.), rating users mutually and providing insurance. However slight differences in the manner that each service Blablacar and notteco asks users to do (mandatory or optional elements) are identified. I consider these differences as analytical point to understand strategy of establishing trust in strangers. Thus I examine how each website is presented and organized, what they ask users to establish trust with strangers, and what elements can play a role and contribute to build trust between strangers. From this comparison, I

propose a hypothesis to study the relationship between the use of carpooling service and the trust in an individual and suggest direction for further research.

4. Classification of the shared mobility

The transportation modes can generally be divided into three categories (Jullien & Rivollet, 2016): 1) public transport, 2) private transport, and 3) alternative modes (Table 1). Each category can be differentiated according to a traditional and a new mode. The shared mobility service transport (car-sharing, car-pooling, bike-free service, etc.) can be included in a new alternative mode.

Table 1: Typology of the mobility offers in France

		Public transport	**Private transport**	**Alternative modes**
Transportation mode	**Classical offers**	Bus, tramway, subway, train	Car, motorbike	Taxis, walk, bicycle
	New offers	Bus Rapid Transit, Demand Responsive Transport	Hybrids car, Electric car	Car-sharing, Carpooling, VTC (*Voiture de Transport avec Chauffeur*), Bicycle-sharing system
Key stakeholders		Transport operator, Transport organizing authorities	Cities, Car manufacturers, Parking managers	Cities, Taxi companies, ICT stakeholders, Transport operator, renters, private stakeholders

5. Car-sharing

5.1 Car-sharing services in France

Car-sharing is defined as a short-term (hourly or daily) vehicle rental service. The vehicles are owned by a company, an organization or individuals and shared with different consumer. According to French law, it is defined as '*la mise en commun d'un véhicule ou d'une flotte de véhicules de transport terrestre à moteur au profit d'utilisateurs abonnés ou habilités par l'organisme ou la personne gestionnaire des véhicules. Chaque abonné ou utilisateur habilité peut accéder à un véhicule sans conducteur pour le trajet de son choix et pour une durée limitée.* (the pooling of a vehicle or a fleet of motorized land

transport vehicles for the benefit of users subscribed or authorized by the organism or the person managing the vehicles. Each subscriber or authorized user can access a vehicle without a driver for the journey of his choice and for a limited time.)'[3]

The service can be distinguished in three according to actor categories (owner and renter):

1) Between professionals and consumers (B to C)
2) Between consumers (C to C)
3) Between professionals (B to B)

And it can be also categorized in three types of services:

1) Round trip: it requires to bring a car back to its original location.
2) One way: it allows to bring a borrowed vehicle back to a different location from an initial place.
3) Free-Floating: a vehicle is available to users in a limited area in city. The users can track and reserve a vehicle via their Smartphone.

By combining these two categories, I can classify below some services existing in France.

Table 2: Example of car-sharing service in France

Actors **Services**	**B to C**	**C to C**	**B to B**
Round trip	Ubeeqo, Hertz on demand, Wattmobile, Zipcar, Mobizen, Okigo, Keylib, Auto Cool, Lilas, Citiz LPA, SunMOOV, AutoBleue, Auto'trement, Autopartage Provence	Drivy, Ouicar, Koolicar	Ubeeqo, Orange Business, ALD-Sharing, RCI mobility

[3] Transport Code, Article L1231-14, LOI n°2015-992 du 17 août 2015 - art. 34 https://www.legifrance.gouv.fr/affichCode.do;jsessionid=60C50B8CADA1CDC0DD6F43E85AEA95C8.tpdila19v_2?cidTexte=LEGITEXT000023086525&idSectionTA=LEGISCTA000028530313&dateTexte=20170314&categorieLien=id#LEGISCTA000028530313

One way	Autolib', Bluely, Bluecub, Cité Lib by Ha:mo, Mobee, Yélomobile		
Free - Floating	Twizy way (2012-2014)		
Estimated number of users	153,000 (2014)	1,100,000 (2015)	
Estimated number of vehicles	3,900 (2014)	600,000 (2015)	

5.1.1 Round trip between professionals and consumers (B to C) car-sharing service

Round trip and B to C car-sharing is a new car rental service base on the use of a new technological transaction. The reservation will be done by a mobile phone application, internet or telephone. The door opening is done by RFID (Radio Frequency Identification) cards or smart phones, so it does not require to go to the agency to rent a car. Then, a rental car is equipped with an on-board computer and a GPS system that communicates with the rental company (Jullien & Rivollet, 2016). This service is deployed in 23 cities in France such as Bordeaux, Lille, Lyon, Nice, Paris, Strasbourg and Marseille.

5.1.2 One way between professionals and consumers (B to C)

One way car-sharing is deployed in Paris, Lyon, Bordeaux, Grenoble, Monaco and Rochelle. Table 3 shows us the current vehicle number, motorization, station number and number of subscribers. Most of the rental cars are electric however the round trip service uses thermal vehicle.

Table 3: Overview of the one way car-sharing service in France

Service name	City	Vehicle number	Motorization	Station number	Number of Subscribers

Autolib'	Paris	3980[4]	Electric	1084	126,901
Bluely	Lyon	250[5]	Electric	100	2,500(1,400 premium users)
Bluecub	Bordeaux	200[6]	Electric	80	N/R
Cité Lib by Ha:mo*	Grenoble	70	Electric (i-Road ad COMS)	27	1000[7]
Mobee	Monaco	25[8]	Electric (Twizy)	450 terminals on 11 parking	N/R
Yélomobile	La Rochelle	44[9]	Electric	13	N/R

5.1.3 Free-Floating car-sharing

An experiment was conducted in Saint-Quentin en Yvelines by using 50 Twizy cars from September 2012 to 2014.[10] The service was initially managed by Renault and then Keemoov, a sustainable mobility services company. The city of Strasbourg and Toulouse began this service in May 2015 called 'Yea!' proposed by the operator Citiz Alsace by using 'Smart ForFour' cars.[11] Compared to the round trip and the one way car-sharing service, the Free-Floating service has just started.

5.1.4 Car-sharing between customers (C to C)

The service consists of establishing contact between owner and person renting on site web. This service can be classified in two according to a transaction mode. First, it is a

[4] Autolib' Métropole. 2016. Tableau de bord Autolib'. https://drive.google.com/file/d/0B8MFxB5YvOOkd3VYZm54cDJJS0U/view, July 3rd 2016.
[5] MobiliCités. 2015. Lyon : le service d'autopartage Bluely passe la seconde. http://www.mobilicites.com/Dossier-12-L-autopartage-surfe-sur-la-mobilite-collaborative/011-3632-Lyon-le-service-d-autopartage-Bluely-passe-la-seconde.html, September10th 2015.
[6] Communauté urbaine de Bordeaux. 2013. Bluecub, dossier de Press. https://www.bluecub.eu/fr/footer/presse/, June 21st 2013.
[7] Toyota Europe. 2016. Premier bilan Cité Lib by Ha:mo : plus de 1 000 adhérents, 92 % de satisfaction. http://newsroom.toyota.eu/newsrelease, May 26th 2016.
[8] Gouvernement Princier, Principauté de Monaco. 2015. Mobee: le service se développe », communique de presse. http://www.gouv.mc/Action-Gouvernementale/L-Environnement/Actualites/MOBEE-le-service-se-developpe, March 18th 2015.
[9] Proxiway. 2017. Yélomobile, mode d'emploi ». http://www.proxiway larochelle.fr/yelomobile-mode-demploi/, accessed on March 14th 2017.
[10] Le Parisien. 2014. L'autopartage électrique débranché. http://www.leparisien.fr/espace-premium/yvelines-78/l-autopartage-electrique-debranche-12-07-2014-3995503.php, July12th 2014.
[11] http://yea.citiz.coop/

classic and direct transaction, the owner and the person renting, to give the keys and to sign a contract. Secondly, it means an automatic transaction that an owner and the person renting don't need to meet, and car is available directly to the person renting thanks to a technological tool inputted in a car which allows to open a car by Smartphone. In France, there are three main companies: 'Drivy'(launched in 2010), 'Ouicar' (launched in 2007) and 'Koolicar' (launched in 2012).

5.1.5 Car-sharing between professionals (B to B)

The service is that the company offers car fleet services to employees for their professional and personal trips by service provider. In France, main providers are 'ALD automotive' (Société Générale), 'Alphabet France', 'Arval, MOPeasy', 'Ubeeqo' (Europcar).

5.2 Car-sharing in Japan

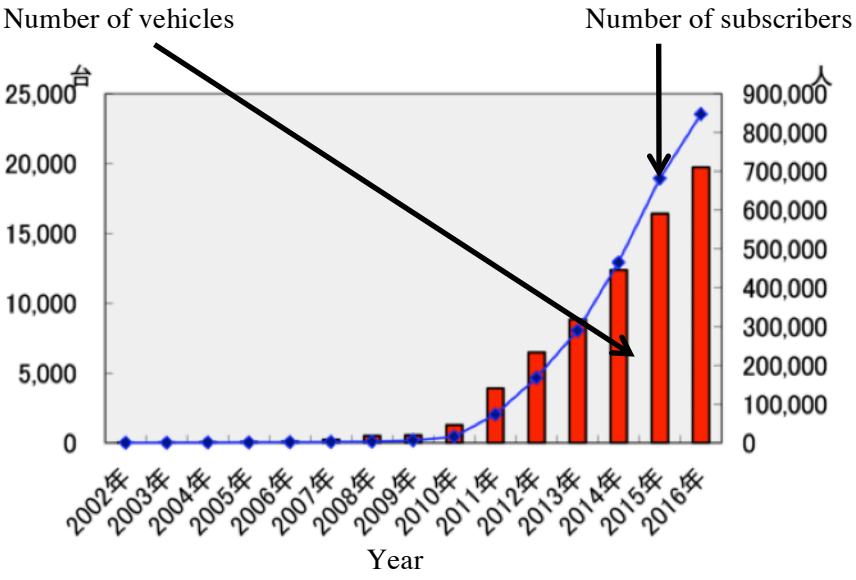
I use a same classification as French's one, and then existing services in Japan can be demonstrated in Table 4.

Table 4: Example of car-sharing service in Japan

Actors / **Services**	**B to C**	**C to C**	**B to B**
Round trip	Times Car Plus, Orix Carshare, Careco, …	Anyca, Cafore, Green Pot	Times Car Plus, …
One way	Choimobi (2013-2016), Times Car PLUS TOYOTA i-ROAD Drive		
Estimated number of users	84,6240 (2016)	N/R	
Estimated number of vehicles	19,717(2016)	870 (2015)	

In Japan, the round trip B to C car-sharing is growing since 2011(Fig.2). In March 2016, there are 30 services. The total number of station is 10,810 then the number of car is 19,717 and 846,240 subscribers in total (Foundation for Promoting Personal Mobility and Ecological Transport, 2016). Among the 30 existing services, 'Times Car Plus' (originally a parking manager, started service in 2005), 'Olix Car Share' (launched in 2005), 'Careo' (launched in 2009) are three major services that are deployed in Tokyo and in major cities in Japan.

Figure 2: Evolution of the number of vehicles and subscribers of car-sharing in Japan



Regarding the one way car-sharing, several services exist. 'Choimobi' operated by Nissan is an experimental service within the framework of the Yokohama Smart City project between 2010-2015. The service offers 50 vehicles (Twizy) at 55 stations in the city of Yokohama. By 2015, the number of subscribers was 12,000. The city of Kobe has also carried out an experiment called 'Sea:mo' in the framework of the CO2 reducing project promoted by Ministry of the environment from August 2015 to March 2016 by using 20 vehicles at 12 stations. Times Car Plus also made a six-month experiment in 2015 at 5 tourist sites in Tokyo. The one way car-sharing in Japan is still in its

experimental stage. Parking on public roads which leads to make a car-sharing system like Autolib' is not permitted by Japanese Road Traffic Law.[12]

Regarding the B to B car-sharing, some of the car-sharing B to C such as 'Times Car Plus',' Careco', 'Olix Car Share', 'Ecolocar', 'D-Share', 'Eathcar', and 'Cariteco' also offer services to professional customers. The use of car-sharing services in companies is growing in Japan. According to the survey (1,636 users) conducted by 'Times Car Plus' company, motivations of the use and the reasons why companies use the service are summarized as follows (Table 5)[13]:

Table 5: Motivation of the use of car-sharing for a company

Motivations	**%**
To enhance the efficiency of the business trip	37.4
To reduce trip cost	35.5
To stop the use of a company fleet	23.4
Company fleet is insufficient	22.8
Difficulty to park a car	19
To reduce a company fleet	12.7
Others	11.7

Regarding car-sharing between customers in Japan, three main service exist; 'Anyca', 'Gafore' and 'Green Pot'. Anyca is founded in September 2015 and offers 500 including luxury and sports cars in Tokyo. Cafore started its services since 2009 and offers 1203 cars. Green pot has been launched in 2013 and offers 155 vehicles. The C to C service in Japan is less developed than France.

I have not identified the Free-Floating service in Japan. It seems still difficult to develop this type of system because of the ban on parking on the road in Japan.

5.3 Comparison of car-sharing user's profiles between France and Japan

My observation in the previous section for the two types of service: 'Round Trip' and 'One Way' exist and car-sharing C to C is growing in France, while 'One way' exists only as an experiment in Japan, and C to C is still less developed compared to France.

[12] Jidousya no hokanbasyono kakuhotou ni kansuru houritsu, syouwa 37 nen 1 gatsu houritsudai145gou [trad. Low of June 1st 1962 of vehicle location, section 45]
[13] Times 24. 2014. http://www.times24.co.jp/news/2014/01/20140116-2.html, January 16th 2014

Regarding the user's profiles (Table 6), in both countries, the main user is male; this tendency is stronger in Japan (82% user are male) than France (55%). The age range of the majority of users is same in both 'between 30 to 49' years old in France (54%) and in Japan (70%). The main motivation of the use in France is an economical aspect (51%): 'Car-sharing is cheaper than a personal car', while the practical aspect (80%) prevails economical motivation (38%) in Japan. Leisure (shopping, visiting family, etc.) is a main trip purpose in both. Most users use the service occasionally: '2-3 per month' in France (32%) and '1-2 per month' in Japan (31%).

Table 6: Comparison of user profiles and their motivations

	France (source: ADEME & 6T-bureau de recherche, 2013) **(Round Tip and One Way)**	**Japan** (source: Promoting Personal Mobility and Ecological Transport, 2013) **(Round Trip)**
Sex	Male 55 % Female 45 %	Male 82% Female 18 %
Age (majority range)	'30 to 49' 54%	'30 to 39' 41% '40 to 49' 29%

Motivation of the use	'Car-sharing is cheaper than a personal car.' 51% 'Car-sharing is more convenient than a personal car.' 21% 'Car-sharing is an ecological mode.' 20%	'Station of car-sharing is close to home.' 80% 'Car-sharing is cheaper than buying a car.' 38%
Trip purpose	'Leisure in week-end' 64% 'Visit to family or friend' 63%	'Shopping' 33% 'Leisure to go to over 20km' 29%
Frequency of use	'2-3 per month' 32%	'1-2 per month' 31%
Average use par year		645km

6. Carpooling (ride-sharing)

6.1 Carpooling in France

Carpooling is an arrangement whereby several participants travel together in a vehicle and the participants sharing the trip costs. The French law defines this service as '*l'utilisation en commun d'un véhicule terrestre à moteur par un conducteur et un ou plusieurs passagers, effectuée à titre non onéreux, excepté le partage des frais, dans le cadre d'un déplacement que le conducteur effectue pour son propre compte. Leur mise en relation, à cette fin, peut être effectuée à titre onéreux et n'entre pas dans les champs des professions définies à l'article L.1411-1.* (the joint use of a ground vehicle by a driver for one or more passengers, carried out without remuneration, except for sharing costs, in the context that a driver travels on his account. The connection among users, for this purpose, may be offered with charge and does not enter in professional field defined in Article L.1411-1.)'[14]

Carpooling can be classified according to the type of trip as follows (Table 7) (Jullien & Rivollet, 2016):

1) Inter-city; between cities, medium or long distance trip
2) Home-work; a car-pooling service for home-work trips

[14] Transport Code, Loi n°2015-992 du 17 août 2015 – article.52. https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000031044385&categorieLien=id

3) Dynamic; a real-time service for short trips in a city
4) Community; a carpooling service sets up internally for a specific community such as company, university, and community
5) Organized hitch-hiking; an informal car-sharing without a prior contract

Table 7: Types of carpooling and example of the service in France

Trip type	**Description**	**Examples in France**
Inter-city	Carpooling for a medium or long distance trip between different cities	Blablacar (25milions members) iDvroom (90,000 members)
Home-Work	Carpooling for a home-work trip	Wayz-up iDvroom Karos Carjob
Dynamic	Carpooling managed in real-time for a short trip in a city	Covivo (30,000 members) Uberpool (160,000 members) Heetch
Community	Carpooling service stets up internally for a specific community such as in company, university, community	Covivo Ecolutis Mobigo (Bourgogne University)
Organized hitch-hiking	Informal car-sharing service without a prior contract	Rezo Pouce Covoiturons sur le pouce

In France, 'Blablaccar' and 'iDvroom' are main carpooling companies. Blablacar is a French startup founded in 2006, has a great success. Its service is deployed in 22 countries and 25 million members have been registered.[15] iDvroom which are initially called 'Ecoulutis' started the service in 1999, then combined with 'Easycovoiturage' and '123envoiture' in 2013. They merged with the SNCF in 2014, and became iDvoom. 900,000 users are registered.[16]

[15] Blablacar. 2016. Blablacar, qui sommes nous ? https://www.blablacar.fr/blog/qui-sommes-nous, accessed on June 26th 2016..
[16] iDvroom. 2016. iDvroom, qui sommes nous ? https://www.idvroom.com/qui-sommes-nous, accessed on June 26th 2016.

The home-work carpooling service represents 3% of the home-work travel and is organized mainly with people who work in a same company and have a difficulty to find a parking at work or at home place, whose journeys are more than 20 kilometers (ADEME, 2014). One of the most famous home-work carpooling services is 'Wayz-up' which was launched in 2014. Wayz up proposes to connect persons of the same company or the same activity area to make a daily trip together. According to its website, the average distance of a trip is 29km, 3000 users are registered in France and 1000 trips are proposed.[17] There are also services such as 'Weepil', 'La Roue Verte', 'Carjob', 'Trajet à la carte'. Then the social network platforms like Facebook, is also used to create a group of daily carpooling. (Jullien & Rivollet, 2016)

Despite these numerous services, the home-work car-pooling is still under development and quite unstable. Some startups are created but disappear quickly such as the case of 'Padam' and 'Sharette'. The closure of 'Wedrive', despite 1.25 million investments from PSA Peugeot Citroën, shows not only that company's strategy plays an important role on the successful development of service[18] but also that the social issues between users are undeniable (e.g. after three trips, the Wedrive users said that they were exhausted to find a 'talkable' topic during a trip with colleagues.). [19]

Regarding dynamic carpooling service, thanks to the development of ICT and Smartphone's application, users can track vehicles that are circulating in the city and order it in real time. The trip can be shared with other people. 'Uberpool' and 'Heetch' (service only overnight from 8pm to 6am) are well known and used services. The dynamic carpooling service often encounters a conflict with taxi service and its legislative arrangements or status is controversial. In this research I will not deal with this question because the subject is quite far from my main interest.

6.2 Carpooling in Japan

[17] Mobivia Groupe. 2016. Wayz-up. http://www.mobiviagroupe.com/fr/activites/nouvelles-mobilites-via-id/wayz-up/, accessed on June 26th 2016.
[18] Challenges. 2015. Covoiturage: Wedrive met la clé sous la porte malgré l'investissement de PSA. http://www.challenges.fr/entreprise/20150317.CHA3929/covoiturage-wedrive-met-la-cle-sous-la-porte-malgre-l-investissement-de-psa.html, March 17th 2015.
[19] Chronos. 2016. Covoiturage : petit lexique de la confiance. Entretien avec la doctorante Lisa Creno. http://www.groupechronos.org/publications/entretiens/covoiturage-petit-lexique-de-la-confiance.-entretien-avec-la-doctorante-lisa-creno, June 2nd 2016.

Carpooling services are not well developed in Japan. 'notteco' which is an inter-city service began its service in 2008. 27,000 people are registered. The system of service is almost the same as a French service 'Blablacar' in term of finding a destination, booking a trip, contacting a driver via the website, evaluating the service, etc. On the other hand, I found also some differences in both services. I will discuss this point in the section 8.2 with liking to the trust issue.

6.3 Comparison of carpooling user's profiles between France and Japan

Table 8: Comparison of inter-city carpooling user profiles and their motivations

	France (Blablacar, 1400 answers)	**Japan** [20] (notteco, N/R)
Sex	Male passenger 49 % Female passenger 51% Male driver 78% Female driver 22%	Male passenger 74% Female passenger 26% Male driver 82% Female driver 18%
Age	Average of user's age: 34 (passenger: 35, driver: 37)	'20 to 39' Passenger: 78% Driver: 65%
Motivation of the use	'Economical aspect' 69% 'Friendliness' 14%	'Economical aspect' 'Friendly meeting'
Average km of trip	364km	N/R

The Survey on user profiles is conducted by 6t-Bureau (ADEME & 6T-bureau de recherche, 2015) among 1400 'Blablacar' users (Table 8). According to the survey, users

[20] I contacted notteco in July 2016 by email and data are collected according to the survey conducted by the notteco company in 2016.

are rather male; passengers (53%) and drivers (78%), young (average age 34 years), mainly workers (66%) and not students (only a quarter of users are students). 50% of users have a higher education above bachelor degree and live in urban areas (38% in the urban area of more than 200,000 inhabitants, 7% in Paris, 3% in Lyon). In an economical aspect, the users' disposable income is on average 'between 900-1500€' and it is less than the French average 2444€. 49% of users do not own a car. Users are generally traveling a lot; 10% of users make more than one trip over 80km per week, and 46% of users make more than one trip per month. The main reasons for travel are 'for leisure (91%)' and 'to visit family (85%)'. The average distance of a trip is 364km.

Regarding the Japanese user profile, I contacted directly Japanese carpooling company notteco in July 2016. According to a survey carried out by the notteco company among 27,000 subscribers, the users are rather male; 74% for passengers and 82% for drivers and young; 78% of passengers and 65% of drivers are ranked between 20 and 39 years old. Regarding the motivation of the use according an interview carried out by the same company among several users (the number of the interview is not identified), the main motivation consists of an economic dimension (the service is cheap) and a possible friendly meeting. The other reasons are that 'the notteco service enables to move after the service of the last train' and 'it is more comfortable than a coach'.

To summarize, by comparing the user profiles in both countries, common elements are that most of the users are male and young people, and that the economic dimension is main motivation of the use.

7. Societal concerns

How the new mobility system contributes to a territorial development? In this section, I focus on some cases in France and in Japan on the use of shard mobility in favor of strengthening a local mobility.

7.1 Shard mobility as complementary mode of local transport in France

In rural area, there are few public transport offered and sometimes they are not well adapted to the inhabitants' needs. For this solution, the shared mobility can strengthen

existing offers. In rural area, the categories of population can be distinguished in their mobility standpoint, '*assignés territoriaux*', 'vulnerable' and 'auto-soloist' (Huyghe et al., 2013). The *assignés territoriaux* is a household that does not have (or hardly) an access to any mobility mode because of financial, physical, or cultural reasons. The vulnerable is a household who spends 18% of their budget on mobility. The auto-soloist has an own car and does not have any problem to move.

Some local cities participate in the development of shared mobility system. I focus on two services in France: in the case of the 'Rézo Pouce' and the 'Covoit'ici'. The Réso Pouce service has been launched in 2012 in Moissac which is a town of 20,000 inhabitants in the Tarn-et-Garonne department. The service is categorized as 'organized hitch-hike' carpooling service. The users need to register beforehand on the website and then they receive a user ID card. In 2015, there were 1585 subscribers (60% drivers and 40% hitchhikers/passengers) and 250 stops.[21] The Rézo Pouce service is operated free of charge, and hitchhiker can pay a fee optionally to a driver. The aim of the service is to enhance mobility service in the small city where the public transportation is not well developed. The Covoit'ici is an experiment to organize hitchhike carpooling that started in 2016 and is organized by a star-up company Ecov in Val d'Oise and Yvelines department for 3 years. The service proposes a short trip inside a city for activities such as shopping and going to work or a school. The passenger needs to register (set his destination and pay) at the terminal and then drivers who are driving near the terminal can be informed by a billboard on the road that indicates a destination of the passenger and the driver may decide to pick up the passenger. This service is inspired by a hitchhike, and does not require any prior registration that is often the brake of the development of carpooling service in a short distance. Economically, 'Covoit'ici' is less expensive than other transportation modes. The fee is calculated automatically according to distance (0.12€ per km) and users need to pay a registration fee 1.99€ which allows to use the service for 31 days. According to the Ecov website, the service can provide 5 to 30 times cheaper trip than a bus service and owning a car (0.5€ per km

[21] Mobicité. 2015. Rézo pouce : l'auto-stop organisé en complément des transports en commun. http://www.mobilicites.com/011-4248-Rezo-pouce-l-autostop-organise-en-complement-des-transports-en-commun.html, October 15th 2015.

for owing a car including costs of gasoline, insurance, vehicle purchase, maintenance, etc.). [22]

The shard mobility can allow modest-income households to move more frequently and to enhance countryside mobility where the public transport is not well served. To develop this kind of new service it needs to focus and overcome organizational and psychological aspect (Huyghe et al., 2013). The first is to enable a trip or a trajectory corresponding to the need of users and the second is to find a better management regarding fear or suspicions to a stranger with who the users share a trip. Regarding the second aspect, although both services are operating for a short distance in a city, it does not mean that the users know each other. In the case of Covoit'ici, the service proposes optionally users to take a photo of license plate of the car and to send the photo to a dedicate number in order to identify which car they took. It is a kind of solution to avoid a potential conflict between driver and hitchhiker.

7.2 Car-sharing service for helping people with mobility difficulties in Japan

The car-sharing service is operated in order to help people with mobility difficulties in Japan. Here is the case of the Ishinomaki city where mobility system is in difficulty after the Fukushima disaster in 2011. An association called 'Japan car-sharing association' started the service after the disaster. The association holds 84 cars and helps to create a community of car-sharing in a small group by offering their cars.

Because of the aging population (27% of population is over 65 years old) and the decreasing public transportation offers (33 train lines, meaning 634.6 km have been removed since 2000 and 8598 km of bus lines have been removed since 2006 in Japan.), the car-sharing service draws more and more attention as an alternative transportation (Masuda & Kohda, 2013).

8. Service strategies: trust issue in general in France and Japan

[22] https://covoitici.fr/

Establishing trust between users (suppliers and consumers) is a key to success of the service. In general, there are common elements that the C to C service employs in order to ensure the service which can consist of three points as follows.

1. Identification. The user's identity is verified in service website by email address, mobile number and profile photo. Social network service such as Facebook and LinkedIn can also be inputted on user's account.
2. The C to C service employs a reviewing system between users. Users can give their comments after using the service. The comments would be useful for new users to know personal reliability and what happens during previous usage.
3. Offering insurance. Insurance issue is widely covered in the C to C services.

In this section, I will overview French and Japanese tendencies in general on trust in an individual.

8.1 Overview on surveys on trust

According the World Values Survey 19% of French people answer 'yes' to the following question: 'Generally speaking, would you say that most people can be trusted' and 81 % (World Values Survey, 2015a) of them say 'need to be very careful in dealing with people', while in Japan, 37% people say 'yes' to the first question, and 57% say 'need to be very careful in dealing with people' (World Values Survey, 2015b). Regarding the question 'who do you trust?'(Table 9), we can observe differences between France and Japan in 'Neighborhood', 'People you meet for the first time', 'People of another religion' and 'People of another nationality'. Regarding 'Neighborhood', French trust them (81%) more than Japanese (56%). 45% of French answer, 'they trust people they meet for the first time' against only 9% of Japanese. Regarding 'people of another religion' and 'people of another nationality', although we can observe a big gap in both countries, it is difficult to compare between Japanese and France because of differences in cultural and social context. It should be noted that 39% ('people of another religion') and 46% ('people of another nationality') of Japanese respond to these question 'I don't know'. It is true that the religion and its practice are not very visible in Japan. For instance, according to the survey, only 6.8% of the Japanese participate in a religious community

against 93% and 28% say that they have a faith against 72% (Ishii, 2011). There is also a strong mistrust in new religious communities funded in modern time, that is say after Edo period, 19th century. The survey shows that 70% of Japanese people are suspicious of new religious communities (Ishii, 2011). Regarding trust in people of another nationality, there are 2,688,288 foreign nationals in 2015 in Japan. This accounts for only 2% of the Japanese population[23], while in France, 8.9% of the population are immigrants[24]. We might consider that the Japanese are not used to the presence of foreigners, thus this could increase the mistrust in them.

Table 9: Comparison of answers to a question 'who do you trust' between France and Japan **(**World Values Survey, 2015a; 2015b**)**

	France (1001 persons)		**Japan (2443 persons)**	
Who do you trust?	Trust completely and somewhat	Not very much and not at all	Trust completely and somewhat	Not very much and not at all
Family	95%	4.5%	97%	1%
Neighborhood	81%	18%	56%	35%
People you know personally	95%	5%	81%	15%
People you meet for the first time	45%	55%	9%	72%
People of another religion	75%	21%	10%	51% * 39% 'I don't know.'
People of another nationality	77%	21%	14%	46% * 40% 'I don't know.'

In social psychology, Yamagishi et al. (1994) investigate trust issue by comparing between Japan and the United States. According their study, American trust more other people in general than Japanese. In their study, they distinguish trust from assurance. Trust means an expectation of goodwill and benign intent in a social uncertain situation where the actor does not have the capacity of correctly detecting the partner's

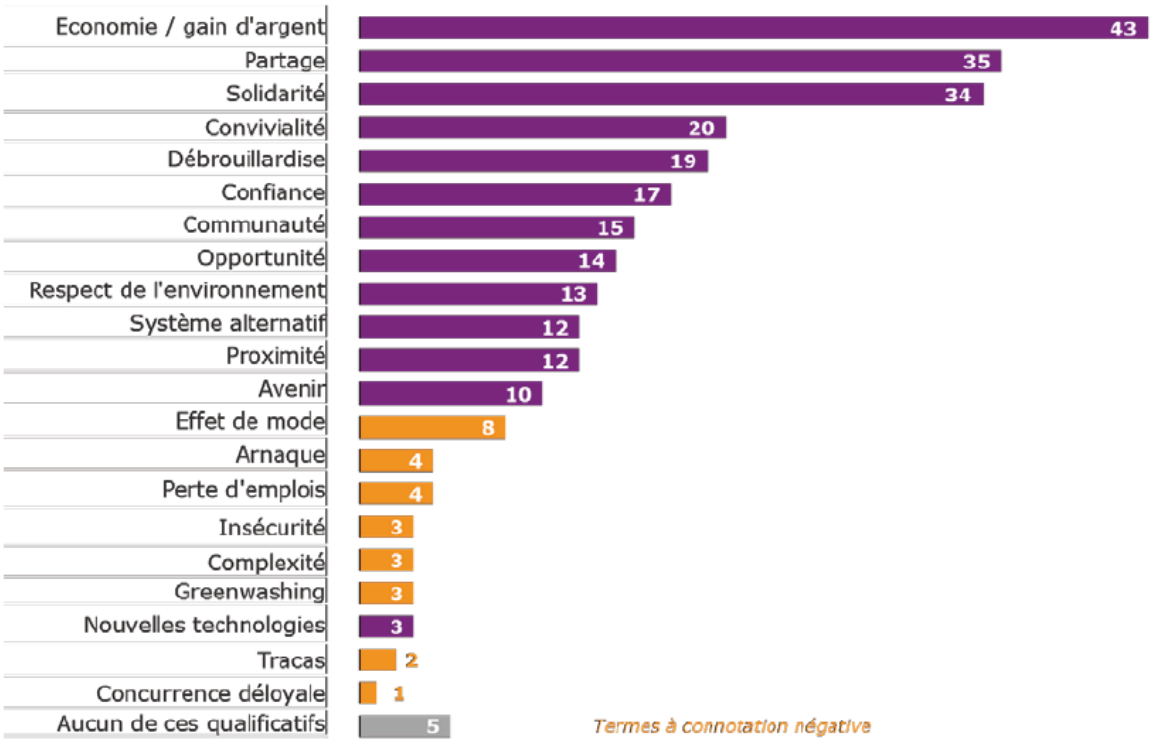
[23] Statics Bureau of Japan. 2015.
[24] INSEE. 2014. Populations française, étrangère et immigrée en France depuis 2006.

intentions, on the other hand assurance is defined as an expectation of benign behavior for reasons other than goodwill of the partner. Their study shows that in Japanese social and business context, human relationship is actually mutual assurance based on the nature of the relationship (e.g. the prominence of networks of committed relations) rather than mutual trust on the belief in human benevolence. Igarashi et al. (2008) examine the role of the trust in social network and its cultural differences between Westerns (Australia, Germany and the United Kingdom) and East Asian countries (Japan and South Korea). They use the notion of general trust and relationism. General trust may encourage people to seek new social relationship, however once contacts are made and relationships are initiated, stronger relationships are maintained by relationism. Relationism is grounded in a sense of relating to well-known persons. People with strong relationism may act to maintain social relationships once they are formed. Thus relationism acts to strengthen the commitment to social relationships, it may not encourage people to seek new social opportunities. For instance, compared to Korean that show high generalized trust and relationism, while Japanese were lower on both. Regarding social network, the authors argue that in Japan there is a strong norm to form friendship ties with those who are in the same setting and have similar attitudes, and in this kind of situation, generalized trust may be irrelevant for friendship formation.

According to the survey among 2000 French consumers conducted by DGE, PICOM Nomadéis, and TNS Sofres (2014) with regard to collaborative consumption, French people have a positive image on collaborative consumption (Figure 3). The main interest in the use of the C to C service is 'the earning and saving money (43%)', 'societal values like sharing (35%)' or 'solidarity (34%)'. Only less than 10% persons answer with negative opinions. The lack of trust can be a brake on the use of the C to C service. 61% of respondents say that worrying factors linked to the C to C services consist of the safety issues as scam, lack of guarantee, do not trust in individual service, etc.

Figure 3: Perception of collaborative consumption by the French

'What are three words that define collaborative consumption for you?'



It is still very difficult to speak generally about who Japanese or French trust. According to the World Values Survey (2015a; 2015b), we can observe that Japanese tend to trust familiar people as family but not so much individuals as neighborhood or people who they meet for the first time, while French responses show that they trust more broadly than Japanese. However, regarding the question; 'Generally speaking, would you say that most people can be trusted', Japanese answer more positively than French. So, it is difficult to interpret this paradox. In the next section, I investigate a service strategy, particularly a carpooling service ('Blablacar' in France and 'notteco' in Japan) in both countries, and examine how each website is presented and organized and what they ask users to establish trust with strangers. From this approach, I would like to analyze what is the key element of establishing trust between individuals and to compare differences in France and Japan.

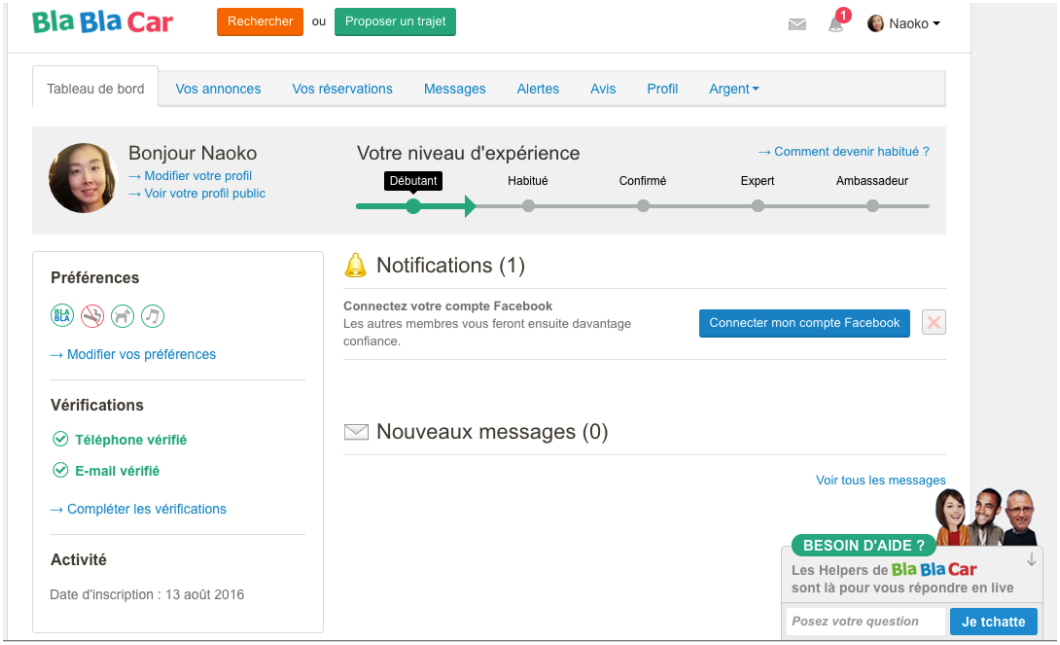
8.2 Comparison of C to C service websites

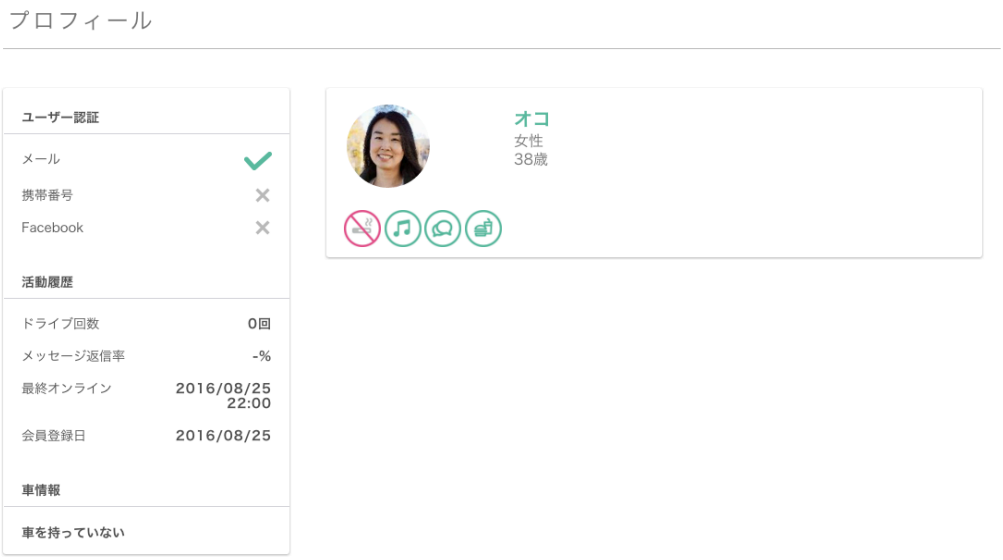
I focus on a carpooling service in both countries to investigate trust issue. By comparing website of the carpooling service; 'Blablacar' in France and 'notteco' in Japan, I examine

how each website is presented and organized and what they ask users to order to establish trust with strangers.

As I already mentioned previously, in general, common elements which the C to C service employs in order to ensure the service consist of proving user identity (by email address, mobile number, Facebook, putting a photo etc.), rating users mutually and providing insurance. We can observe theses common factors in both websites (Fig.4).

Figure 4: Example of Dashboard of 'Blablacar' and 'notteco'





I identified slight differences in the manner that each service Blablacar and notteco asks users to do (mandatory or optional elements). I analyze below these differences (Table 10).

Table 10 Comparison of different elements in the website of Blablacar and notteco

	Blablacar	**notteco**
Photo	Optional. Only clear photo of the face. The photo needs to be checked by the website.	Optional. User can put any photo.
Payment	By card via the website	On site
Service fee	The website takes a service fee.	The website does not take a service fee at the moment.
Identity check	No need to send a photocopy of ID card (but recommended) or driver's license to the website.	Need to send a photocopy of ID card and driver's license.
Additional filter when searching trips	Answering time	- Trip purpose - Number of friends on Facebook

It should be noted that notteco is still developing service compared to Blablacar which is now very well used service in France. For instance, the number of trips offered by notteco is very few. By comparing the number of ads on August 25, 2016, notteco has 249 proposed trips in Japan while Blablacar has 1107 trip ads only between Paris and Lyon. By observing the content of both website, the notteco service looks more like a meeting site, while Blabalcar looks more like a booking trip website (for example, the

price is already fixed on the site in Blablacar but in notteco even if an estimated fee is posted, the users can negotiate a fee.

Referring to the Yamagishi's theory (Yamagishi 1999; Yamagishi et al. 1994), we can analyze that Japanese notteco service tries to establish an 'assurance' of the service by asking to the users a photocopy of ID card and driver's license that can identify surely users identity, while the Blablacar website look likes less exigent in them of the identity verification requirement and let users establish a trust by themselves. However, it is still very difficult to justify establishing-trust strategy. I think it is necessary to interview each user and which factors play a role to build trust considering also users motivations of the use (e.g. the carpooling service is cheaper than other transportation mode, section 3.3).

9. Economic aspects in France

In this section, I would like to make clear a profitability of the shard mobility service and some perspective regarding the development of the service in France such as the questions: the service is an ephemeral phenomenon or is becoming a common travel mode?

9.1 Overview of economical advantage compared to other transport mode in France

Comparing the cost of other transportation modes and the shared mobility, it is quite obvious that the latter allows users to save money. For instance, the use of a car (maintenance, assurance and purchase included) costs between 6000€-8000€ per year in 2015 [25] and the use of public transportation in Paris and its urban area costs about 800€ per year in 2016 according to the Navigo website[26]. Regarding the shared mobility, in the case of the car-sharing service Autolib', the service costs between 900€-1000€ per year in 2014 according to the 6t-bureau's research (ADEME et 6t-Bureau de recherche, 2014). Another car-sharing service C to C, Drivy allows to earn 672€ per year

[25] Automobile Club Association. Budget ACA de l'Automobiliste, May 2016. https://www.automobile-club.org/actualites/la-vie-de-l-aca/budget-aca-de-l-automobiliste-mai-2016.
[26] Navigo. http://www.navigo.fr/titres/le-forfait-navigo-mois-tarifs-et-zones/

according to the website of Drivy in 2015[27]. Regarding the carpooling service, Blablacar allows users to save 0,1€/kilometer (ADEME & 6T-bureau de recherche, 2015). As I mentioned in the sections 5.3 and 6.3 that the motivation of using the shared mobility are on an economical aspect, it is obvious that the use of the shared mobility cost less than an owing car and allows to make a trip economically.

9.2 Shared mobility as an ephemeral phenomenon or enduring service in France

As I identified the user's profile of the new mobility service, the population of the user's is still limited to the young and male users. However, the range of the user's age is expanding. For instance, the Autolib' users age is shifting from 38 to 40 years old for annual subscribers and from 33 to 35 years old for occasional subscribers, and the proportion of female users is increasing from 33% to 36% for annual subscribers and from 33% to 35% for occasional subscribers.[28] Thus, it is no doubt that a certain type of the shard mobility is becoming a common travel mode. However even if we can observe the big growth of the shard mobility, an estimation of the car-sharing fleet is 0,015% in France (e.g. 0.0003% in Japan) of the total vehicle fleet.

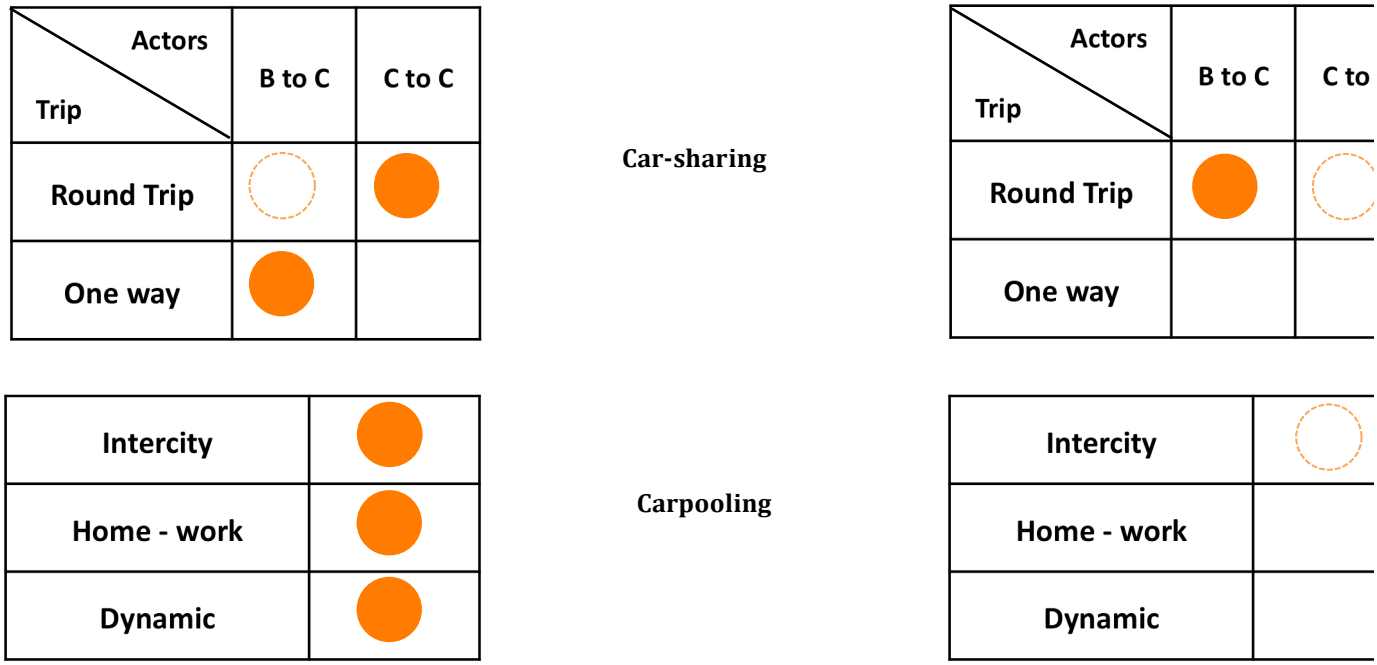
It is careful to say that the new mobility service is a danger for carmakers or train companies who are worried about loosing their customers. And also according to the Jullien and Rivollet's research (2015), they argue that the C to C business type in both car-sharing and carpooling is still a fragile service because the companies are seeking foreign investment rather than expanding services at a national level or to certain hard-to-reach populations. However, this argument is questionable because sometimes the key to success could be to develop a service first and dominate a market before competitors arrive. The shared mobility service is quite new phenomenon, so it is still difficult to determine the development tendency, therefore a further research is necessary to clarify the phenomenon.

10. Conclusion

[27] Drivy. https://blog.drivy.com/2015/12/18/imposition-revenus-issus-de-la-location-de-voiture-entre-particuliers/, December 12th 2015.
[28] Autolib'. Autolib' business review in 2014, file:///Users/nabe/Downloads/Rapport%20d'activit%C3%A9%202014%20Fasicule%203-3.pdf.

This working paper overviews the service of the shared mobility; car-sharing and carpooling in Japan and France. In terms of the development of the service in general, I created a visual chart below (Fig. 5). In conclusion, generally in Japan the 'round-trip, B to C' car-sharing service is growing, but 'C to C' service in both car-sharing and carpooling is still less developed or just started to service, while in France, carpooling, 'C to C' car-sharing service are growing and 'one-way' car-sharing service has also been developing in cities (e.g. Paris, Lyon, Bordeaux, etc.).

Figure 5: Overview of the comparison of the shared mobility service between France and Japan



Regarding the analysis of the use, we observed common points of the motivation and the user profile between Japan and France. The users of the shared mobility are mostly male and the motivation of use is an economical aspect. I also observed slight differences in the motivational use of the car-sharing service; in Japan, regarding the motivation, a practical aspect is more important than an economical aspect. The car-sharing B to B service is also growing in Japan.

The differences in the development of the new shared mobility service between France and Japan is quite clear. These differences are due to multiples reasons such as transport mode, traffic regulation, economical situation, activities that are different in

France and Japan. My interest in this research is to focus the difference in the development of the shared mobility from a sociological standpoint, especially focusing on social relationship with 'strangers'. For this purpose, I evoked the question of the trust. In this research stage, it is difficult to say that French trust stranger more than Japanese. Considering the Yamagishi's social psychological theory (1999), Japanese do not build their social relationship based on trust but rather on assurance that has less risks, that is to say, there is no risk to be betrayed and left disappointed, I can make hypothesis about the relationship between the development of the new shared mobility service and the trust issue as following.

- Regarding the choice of using the shard service, French chose the shared service if their effort to trust stranger and the price of the service or economical situation of the users encounter a certain equilibrium. It means that if they have enough money and they don't need to save the money, or if they need to make lots of effort to trust stranger (for example, in the case where the website does not make sure an identity of users, or the services make lots of problems, etc.), they would not use the service. If the price that is cheap enough to make an effort (take a risk) in order to trust stranger, French would use the service.
- On the other hand, Japanese need a reassurance regarding the use of the service, so if the no-risk of the service is not evident, they would not use the service even if the price is cheap.

The present discussion paper overviews the current state of the shared mobility service in Japan and France and allows us to observe generally differences in the development of the service. The paper is a first step of a research, which allows me to lead a hypothesis to analyze a relationship between the development of the shard service and the trust issue.

11. Future Prospect

Next step of the research is to do a theoretical framework research and find a method to justify the hypothesis. Regarding the theoretical framework, I can rely on social psychologist research on the relationship between strangers. For instance, the theory of

a ‘familiar stranger’ studied firstly by Stanley Milgram (1977) would be interesting to understand the relationship between individuals. Milgram defined a familiar stranger as an individual who is known from regular activities, but with whom one does not interact. In the case of the home-work carpooling called ‘Slug-line’ in USA, we can observe anonymous relationship which can be understood by the familiar stranger theory. A ‘Slug-line’ is a carpooling service which has developed in 70th around Washington D.C. for a short distance and everyday, especially for a home-work trip. The service is free and both driver and passenger can gain the time by taking a high-occupancy vehicle lane. What is interesting in the service is its code of conduct regarding drivers and passengers. For example, a passenger should not start a conversation in the car as long as a driver does not start it or a passenger should not ask to change a radio channel or the temperature in the car, etc., if a driver does not ask to a passenger. This code actually allows both to maintain an anonymous relationship during the trip with avoiding communication and interaction. Thus the users of the Slug-line can continue to be a stranger even if they know each other because they use daily the service. It is essential to investigate what kind of relationship we can create in the case of the new mobility service, especially C to C service, because this question of social relationship between users could be linked to the question of the trust. Regarding a method, it is fruitful to do a sociological qualitative and quantitative survey to measure the hypothesis.

The research is still in its exploratory stage, and further investment is expected because the development of sharing economy is booming, not only in the automobile field but any field, and the question of trust is the key point to understand our social phenomenon.

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